

**WE CLAIM:**

1. An anticonvulsant pharmaceutical composition for nasal administration having binding affinities for the receptor sites *viz.* GABA-A agonist site, Glutamate-AMPA site, Glutamate-Kainate site, Glutamate-NMDA agonistic site, Glutamate-NMDA glycine (strychnine insensitive) site and Sodium channel (site 2), comprising
  - i. an extract of the pericarp of the fruit of *S.trifoliatius*, comprising from 0.001 to 1.0 (%w/v) of hederagenin, and
  - ii. pharmaceutically acceptable additives.
2. An anticonvulsant pharmaceutical composition, for nasal administration according to claim 1, wherein extract comprises hederagenin in amounts of 0.004% to 0.08 (%w/v) of.
3. An anticonvulsant pharmaceutical composition, for nasal administration according to claim 1, wherein the said extract is in the form of a lyophilized powder or an aqueous solution.
4. An anticonvulsant pharmaceutical composition, for nasal administration according to claim 1, being suitable for prophylactic treatment of migraine, mediated through its anticonvulsant activity.
5. An anticonvulsant pharmaceutical composition, for nasal administration according to claim 1 wherein the pharmaceutically acceptable additives, comprise agents for adjusting the tonicity; viscosity; pH and a preservative agent.
6. An anticonvulsant pharmaceutical composition, for nasal administration according to claim 5 wherein the said agent for adjusting the tonicity, is sodium chloride.

7. An anticonvulsant pharmaceutical composition, for nasal administration according to claim 5 wherein the said agent for adjusting the viscosity is selected from xanthan gum, carboxymethyl cellulose, methyl cellulose, hydroxypropyl methyl cellulose, polyvinyl pyrrolidone, polyvinyl alcohol and carbomers.
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8. An anticonvulsant pharmaceutical composition, for nasal administration according to claim 5 wherein the said agent for adjusting the pH is selected from citric acid, sodium citrate, potassium dihydrogen phosphate, acetic acid, sodium acetate and ammonium acetate.
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9. An anticonvulsant pharmaceutical composition, for nasal administration according to claim 5 wherein the said preservative agent is selected from chlorbutanol, phenyl ethyl alcohol and parabens.
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10. An anticonvulsant pharmaceutical composition, for nasal administration according to claims 1 to 9 wherein the pH, is in the range of between 4.5-6.5.
11. An anticonvulsant pharmaceutical composition, for nasal administration according to claims 1 to 10, wherein the said composition is in the form selected from nasal drops, nasal sprays, nasal powders, semisolid nasal preparations, nasal washes, nasal sticks and the like.
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12. A process for preparation of an extract containing 4 to 8 % w/w of hederagenin, comprising the steps of
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- a) extraction of the pericarp of the fruit of *S.trifoliatatus* with water or an alcohol or a mixture thereof at ambient to boiling temperature for 0.5 to 24 hours,
- b) lyophilization of the aqueous, alcoholic or aqueous alcoholic extract containing a mixture of saponins to give a lyophilized powder, containing a mixture of saponins, and
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- c) reconstitution of the lyophilized extract in water to achieve a concentration of hederagenin between 0.001 to 1.0 (%w/v).

13. A process according to claim 12, wherein the alcohol is selected from a C<sub>1-4</sub> alcohol.
14. A process according to anyone of claims 12 and 13, wherein the C<sub>1-4</sub> alcohol is methanol, ethanol, n-propanol, iso-propanol, n-butanol, iso-butanol and tert-butanol.
15. A process for preparation of an anticonvulsant pharmaceutical composition comprising
- i) adding lyophilized aqueous extract of *S.trifoliatius* as claimed in claim 12 to a mixture of Chlorobutanol and Phenylethyl alcohol in water and sodium chloride, to get a uniform dispersion;
  - ii) filtering;
  - iii) mixing above dispersion with dispersion of Xanthan gum in purified water ;
  - iv) adjusting the pH between 4.5-6.5.
16. An extract according to Claim 1 and 12, which exhibits *in vitro* receptor binding affinity towards specific receptors like GABA-A agonistic site, Glutamate NMDA agonistic site, Glutamate NMDA Glycine (strychnine insensitive) site and sodium channel (site 2) which have mediatory role in anticonvulsant effect.
17. An extract according to Claim 1 and 12, wherein the *in vivo* anticonvulsant activity in rat of Maximal Electroshock Seizure (MES) test model is exhibited by nasal administration.

18. An extract according to claim 16 wherein the anticonvulsant activity exhibited in MES model of rat by intra nasal route of administration is without loss of motor co-ordination in rat in the effective dose range.
- 5 19. A method of prophylactic treatment of migraine through anticonvulsant activity of the said pharmaceutical composition by its administration through intranasal route.